SER-Y/U

MCB-9

MCB-20

ERTC-01

CE

Product Code

			ON Delay (Er)	OFF Delay (Em-1)	ON Flasher	OFF Flasher	Down-timer	Star-Delta	Left-Right	No Voltage, Delayed Impulse	OFF Delay with Control Input (R)	ON Delay with Control Input (Es)	Single shot leading edge with control input (Ts)	Single shot leading edge voltage controlled (Em-2)	Single shot trailling edge with control input (Ta)	Symmetric Flasher (Ef)	Trigger Input	24 VAC / DC	220 VAC	12-240 VAC / DC	24-240 VAC / DC
ERTC-01	Multi-function T. Relay	1sec - 100h	●	●	●	●	●										●	●	●		
SM-9	Time Relay	0,1sec - 30 h	●	●	●	●												●	●		
MCB-7	Time Relay	0,1sec - 60 h	●															●	●		
MCB-8	Time Relay	0,1sec - 30 h	●	●														●	●		
MCB-9	Time Relay	0,1sec - 30 h	●	●	●	●												●	●		
MCB-30	Time Relay	2-30sec	●															●	●		
MCB-60	Time Relay	4-60sec	●															●	●		
SER-YU	λ / U Relay	20-500msec. (λ/U) 60sec (λ)						●											●		
SSR-2X	Left-Right Relay	1sec - 60 h							●										●		
DG-06	Time Relay	0,1 - 6sec								●									●		
MCB-15	Multi-function T. Relay	1sec-100 h	●								●		●	●		●	●				●
MCB-20	Multi-function T. Relay	0,05sec-100 h	●								●	●	●	●	●	●	●			●	

MODELS

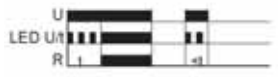
SPECIFICATIONS	MCB-7	MCB-8	MCB-9	(new) MCB-15	(new) MCB-20	MCB-30	MCB-60	SSR-2X	ERTC-01	SER-Y/U	DG-06
Electrical Parameters											
Operating Voltage (Un)	230 V AC & 24 V AC / DC			pls.refer to table above		230 V AC & 24 V AC / DC		230 V AC			
Operating Range	U_n±20% (for AC) ; I_n±10% (for DC)										
Network Type	Single - phase / 2 wires										
Power Consumption	< 8 VA			< 4 VA		< 8 VA			< 3 VA	< 8 VA	< 3 VA
Repetition Error	±0.1%			±5 msec.		±0.1%					
Reset Time	≤150 msec.			=100 msec.		≤200 msec.		≤100 msec.	≤80 msec.	≤120 msec.	-
Connection Type	A (Terminal)							C	(Terminal)	E	A
Output Contact	1 C/O; 8 A, 2000 VA, cosφ=1							2 C/O; 8A,2000VA, cosφ=1	1 C/O; 8A,2000VA, cosφ=1	2 NO; 5A,1250VA	1 C/O; 8A,2000VA
Mechanical Parameters											
Degree of Protection	IP20			IP40		IP20			IP40 (front panel)	IP20	
Dimensions	PK22			PK27		PK22		PK15	PK20	PK25	PK10
Weight / each	0,1 kg			0,1 kg		0,1 kg			0,3 kg	0,1 kg	0,25 kg
Quantity in 1 package	24 pcs			10 pcs		24 pcs			16 pcs	24 pcs	10 pcs

Functions of MCB-15 and MCB-20

ON Delay (Er) [MCB-15 & MCB-20] :

When the supply voltage U is applied, the set interval t begins (green LED U/t flashes). After the interval t has expired (green LED U/t illuminated) the output relay R switches into on-position (yellow LED illuminated). This status remains until the supply voltage is interrupted. If the supply voltage is interrupted before the expiry of the interval t, the interval already expired is erased and restarted when the supply voltage is next applied.

Er



OFF Delay with control input (R) [MCB-15 & MCB-20] :

The supply voltage U must be constantly applied to the device (green LED U/t illuminated). When the control contact S is closed, the output relay R switches into on-position (yellow LED illuminated). If the control contact is opened, the set interval t begins (green LED flashes). After the interval t has expired (green LED U/t illuminated) the output relay switches into off-position (yellow LED not illuminated).
If the control contact is closed again before the interval t has expired, the interval already expired is erased and restarted at the the next opening of control contact S.

R

Single shot leading edge with control input (Ts) [MCB-20] :

The supply voltage U must be constantly applied to the device (green LED U/t illuminated). When the control contact S is closed, the output relay R switches into on-position (green LED U/t illuminated) and the set interval t begins (green LED U/t flashes). After the interval t has expired (green LED U/t illuminated) the output relay switches into off-position (yellow LED not illuminated). During the interval, the control contact can be operated any number of times. A further cycle can only be started when the cycle run has been completed.

Ts

Single shot trailling edge with control input (Ta) [MCB-20] :

The supply voltage U must be constantly applied to the device (green LED U/t illuminated). Closing the control contact S has no influence on the condition of the output R. When the control contact is opened, the output relay switches into on-position (yellow LED illuminated) and the set interval t begins (green LED U/t flashes). After the interval t has expired (green LED U/t illuminated), the ouput relay switches into off-position (yellow LED not illuminated). During the interval, the control contact can be operated any number of times. A further cycle can only be started when the cycle run has been completed.

Ta

ON delay with control input (Es) [MCB-20] :

The supply voltage U must be constantly applied to the device (green LED U/t illuminated). When the control contact S is closed, the set interval t begins (green LED U/t flashes). After the interval t has expired (green LED U/t illuminated) the output relay R switches into on-position (yellow LED illuminated). This status remains until the control contact is opened again. If the control contact is opened before the interval t has expired , the interval already expired is erased and restarted with the next cycle.

Es

Single shot leading edge voltage controlled (Em-2) [MCB-15 & MCB-20] :

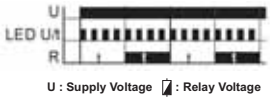
When the supply voltage U is applied, the output relay R switches into on-position (yellow LED illuminated) and the set interval t begins (green LED U/t flashes). After the interval t has expired (green LED U/t illuminated) the output relay switches into off-position (yellow LED not illuminated). This status remains until the supply voltage is interrupted. If the supply voltage is interrupted before the interval t has expired, the output relay switches into off-position immediately. The interval already expired is erased and restarted when the supply voltage is next applied.

Em-2

Flash (Ef) [MCB-15 & MCB-20] :

When the supply voltage U is applied, the set interval t begins (green LED U/t flashes). After the interval t has expired, the output relay R switches into on-position (yellow LED illuminated) and the set interval t begins again. After the interval t has expired, the output relay switches into off-position (yellow LED not illuminated). The output relay is triggered at a ratio of 1:1 until the supply voltage is interrupted.

Ef



U : Supply Voltage : Relay Voltage

Common Functions of SM-9; MCB-7/8/9; ERTC-01:

On Delay (Er) :

In the On Delay mode, after the device is energized, the timer starts to count up and when it reaches the adjusted time, the relay is energized.

Off Delay (Em-1) :

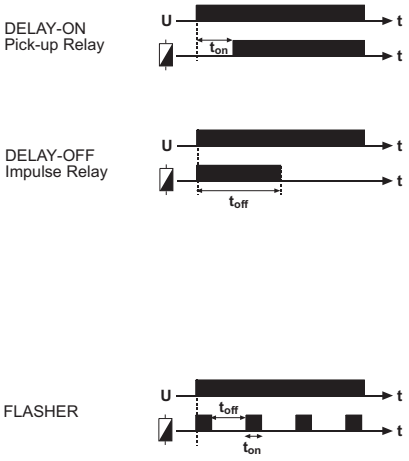
In the Off Delay mode, after the device is energized and with start input, the relay is energized and becomes de-energized at the end of the time adjusted by the user.

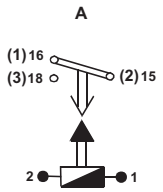
Down Timer :

In the Down Timer mode, after the device is energized, the down counter starts to count down from the time adjusted by the user and when it reaches zero, the relay is energized.

Flasher :

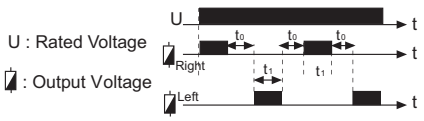
In the Flasher mode, after the device is energized, when tOFF time ends the relay is energized and becomes de-energized at the end of the delay. The starting mode of the flasher mode can be choosen as ON or OFF mode. In the OFF mode flasher starts with tOFF and energized after the tOFF value, then continues to tOn mode. In the On mode flasher starts with tOn and deenergized after the tOn value, then continues to tOFF mode. The Flasher function is continuously repetitive.

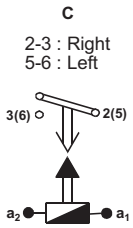




Functions of SSR-2x :

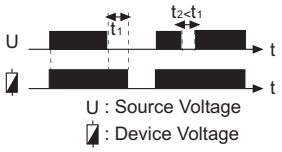
When the line voltage is applied, the right output relay starts to work as "switching ON" and the left output relay as "switching OFF". At the end of "t_1" time both of two output relays switch OFF and this condition is kept for "t_0" times. At the end of this. period, the left output relay "switches OFF" and the right output relay "switches ON" and also this situation is kept during "t_1" time.



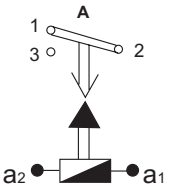


Functions of DG-06 :

When the supply is applied, output relay turns ON and while supply exists output relay keeps energized. When the supply is cut off, output relay stays energized during adjusted t_1 time (0.1-6 sec). At the end of that time, output relay turns OFF. If the supply is applied before t_1 time isn't up, output relay continues to stay energized.

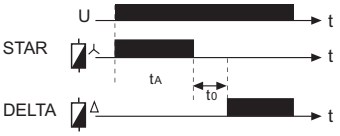


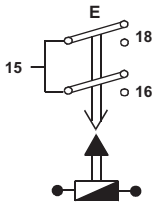
No Voltage, Delayed Impulser)



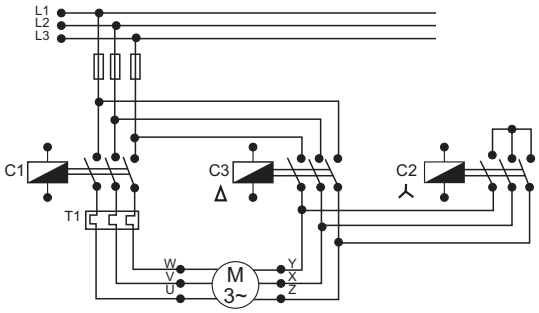
Functions of SER-Y/U :

When the operating voltage is applied, the star contacts [(1/16, 2/15) for PK21/PK15, for PK25], are closed and then released after the operating time, t_A. The delta contacts [(2/15, 3/18) for PK21/PK15] are closed after the transition time, t_0 = 50 msec (fixed at factory). The fault of the transition time is ± 5 msec.This transition time can be adjusted (to= 20-500 msec.) in PK25 type.

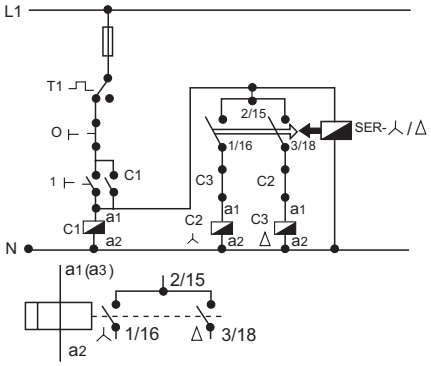




Main Connection



Circuit Plan

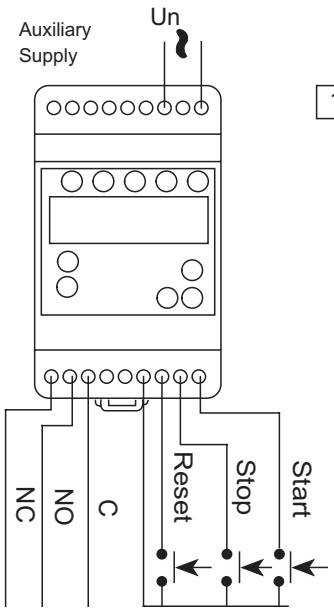


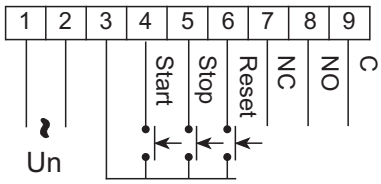
Note: 24 VAC/DC supply of SER - Y/U is applied between A2-A3
There is no 24 VAC/DC supply in PK25 type

This transition time can be adjusted (to= 20-500 msec.) in PK25 type.

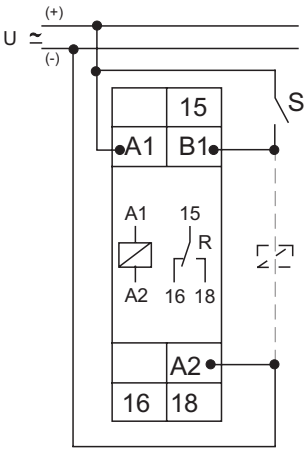
Connection Diagram

ERTC-01:



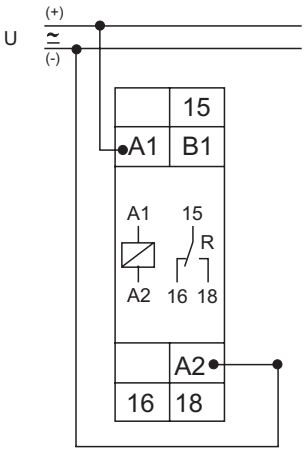


MCB-20



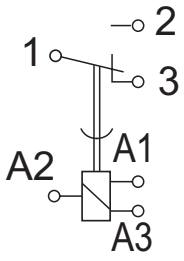
Using MCB-20 with trigger input

SM-8 / SM-9 / SER Y/U

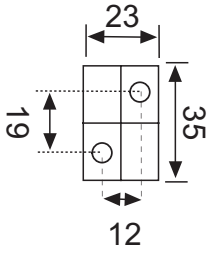


Using SM-8/9/SER-Y/U
without trigger input

MCB 7-8-9

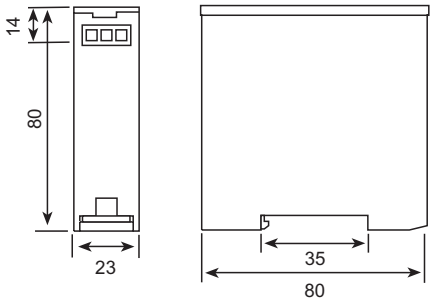


A1-A2 : 115/127/220/230 VAC
A3-A2 : 12 VAC/DC
24 VAC/DC

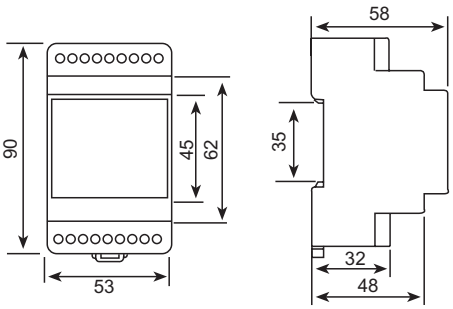


Wall mont plastic
for DIN types

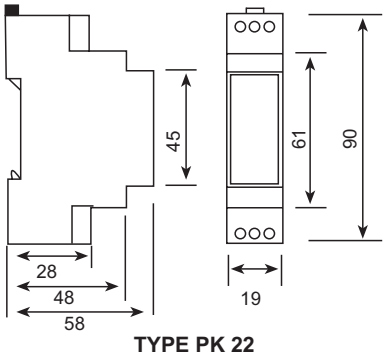
Dimensions



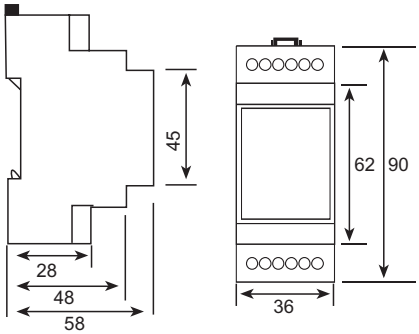
TYPE PK 15



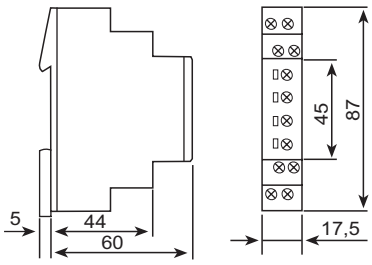
TYPE PK 20



TYPE PK 22



TYPE PK 25



TYPE PK 27

Connection diagrams are given for reference. Please always check the latest user manual given with product or download from www.entes.com.tr.